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The effect of a radio-frequency magnetic field on resonant absorption saturation in FeBO3

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Abstract

We experimentally study the influence of a radio-frequency magnetic field on the resonant absorption of gamma radiation in samples with high density of resonant nuclei. An increase of the integrated area of absorption spectra and a change in the relative intensity of hyperfine lines can be explained by the excitation of magnetostriction vibrations in the sample, resulting in reduction of the saturation effect of resonant absorption. © 2008 Springer Science+Business Media B.V.

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Keywords

Magnetostriction, Mössbauer effect, Saturation effect of resonant absorption